

THE INVENTION CLAIMED

1. An electronic device for operation in multiple applications comprising:

a main body element having upper and lower faces relative to usage;

a screen constructed in at least a first portion of the upper face of said main body element to provide a visible display of information to the user;

a first panel mounted on the main body element for pivotal motion thereon between open and closed positions, said first panel having first and second faces, said first face accessible to the user in said closed position and said second face accessible to the user in said open position;

a second panel mounted on the main body element for sideways rectilinear motion thereon and relative thereto between open and closed positions, said second panel having a third face, said third face accessible to the user in said open position and inaccessible to the user in said closed position;

said first and second panels are in overlapping alignment with one another in the closed position;

a function keyboard constructed in two portions, a first portion constructed in the second face of said first panel and a second portion constructed in said third face of said second panel, each of said function keyboard portions having an array of keys consistent with a selected function;

said function keyboard is exposed for operative use in said open position wherein said first and second panels are in non-overlapping alignment with one another in said open position and said first and second panels are located on opposite sides of said screen in said open position wherein an additional portion of the upper face of said main body

element located beneath and substantially covered by said second panel in said closed position is revealed and accessible to the user in said open position.

2. The electronic device for operation in multiple applications as defined in claim 1, wherein said first panel is manually rotatable about its pivotal axis.
3. The electronic device for operation in multiple applications as defined in claim 1, wherein said second panel is manually moved sideways.
4. The electronic device for operation in multiple applications as defined in claim 1 arranged for semi-automatic operation wherein said first panel is bias assisted between its respective said closed and open position.
5. The electronic device for operation in multiple applications as defined in claim 1 arranged for semi-automatic operation wherein said second panel is bias assisted between its respective said closed and open position.
6. The electronic device for operation in multiple applications as defined in claim 1 arranged for semi-automatic operation wherein said first and second panels are mechanically linked such that rotational movement of said first panel about its pivotal axis causes sideways linear movement of said second panel.
7. The electronic device for operation in multiple applications as defined in claim 1, wherein said second panel is inhibited for sideways movement and said first panel rotates about its pivotal axis between said open and closed positions.
8. The electronic device for operation in multiple applications as defined in claim 1, wherein said additional portion of the upper face of said main body element carries an additional array of keys consistent with a selected function.

9. The electronic device for operation in multiple applications as defined in claim 1, wherein said screen is constructed in said at least first portion and said additional portion of said upper face and defining a full screen wherein said first and second panels are in overlapping alignment with one another and the portion of said screen located in said additional portion of said upper face whereby the visible area for display of information is restricted to less than the full screen and wherein said full screen area is available for visible display of information to the user in said open position.

10. The electronic device for operation in multiple applications as defined in claim 1, wherein said function keyboard comprises a full function QWERTY key array split in first and second portions constructed respectively in said first and second panels.

11. The electronic device for operation in multiple applications as defined in claim 1, wherein said function keyboard comprises a game controller with multiple function keys divided between said first and second panels.

12. The electronic device for operation in multiple applications as defined in claim 1, wherein said array of keys on said faces of said panels are offset to prevent interference between the keys of said faces in said closed position.

13. The electronic device for operation in multiple applications as defined in claim 1, wherein said device is a mobile communication device and further comprises a communication keypad constructed on said first face of said first panel, said keypad being exposed for operative use in said closed position.

14. The electronic device for operation in multiple applications as defined in claim 10, further including a control unit, said control unit further operating to rotate the orientation of the display on said screen consistent with the functional position of said first and second panels so that said display is aligned with said communication keypad in said closed position and aligned with said functional keyboard in said open position.

15. The electronic device for operation in multiple applications as defined in claim 11, wherein said display on said screen is rotated 90° between said open and closed positions.
16. The electronic device for operation in multiple applications as defined in claim 12, wherein said orientation is controlled by the position of said first panel.
17. The electronic device for operation in multiple applications as defined in claim 12, wherein said orientation is controlled by the position of said second panel.
18. The electronic device for operation in multiple applications as defined in claim 10, wherein said communication device keypad is locked in an inoperative mode in said open position.
19. A function keyboard for use in a mobile communications device, said communications device having a main body element, a communications keypad, and a screen for displaying information to the user, said keyboard comprising:
- a first panel mounted on the main body element having upper and lower surfaces for pivotal motion thereon between open and closed positions, said first panel having first and second faces wherein said communications keypad is constructed on said first panel, said communications keypad being exposed for operative use in said closed position;
- a second panel mounted on the main body element for sideways rectilinear motion thereon and relative thereto between open and closed positions, said second panel having a third face, said third face accessible to the user in said open position and inaccessible to the user in said closed position;
- wherein said function keyboard is constructed in two portions, a first portion constructed in the second face of said first panel and a second portion constructed in said

third face of said second panel, each of said function keyboard portions having an array of keys consistent with a selected function;

wherein said function keyboard is exposed for operative use in said open position and said first and second panels are in overlapping alignment with one another in the closed position, and

wherein said first and second panels are in non-overlapping alignment with one another in said open position and said first and second panels are located on opposite sides of said screen in said open position wherein an additional portion of the upper face of said main body element located beneath and substantially covered by said second panel in said closed position is revealed and accessible to the user in said open position.

20. A mobile communications device for operation in multiple applications comprising:

a main body element having upper and lower faces relative to usage;

a screen constructed in at least a first portion of the upper face of said main body element to provide a visible display of information to the user;

a first panel mounted on the main body element for pivotal motion thereon between open and closed positions, said first panel having first and second faces, said first face accessible to the user in said closed position and said second face accessible to the user in said open position;

a second panel mounted on the main body element for sideways rectilinear motion thereon and relative thereto between open and closed positions, said second panel having a third face, said third face accessible to the user in said open position and inaccessible to the user in said closed position;

said first and second panels are in overlapping alignment with one another in the closed position;

a communication keypad constructed on said first face of said first panel, said keypad being exposed for operative use in said closed position.

a function keyboard constructed in two portions, a first portion constructed in the second face of said first panel and a second portion constructed in said third face of said second panel, each of said function keyboard portions having an array of keys consistent with a selected function;

said function keyboard is exposed for operative use in said open position wherein said first and second panels are in non-overlapping alignment with one another in said open position and said first and second panels are located on opposite sides of said screen in said open position wherein an additional portion of the upper face of said main body element located beneath and substantially covered by said second panel in said closed position is revealed and accessible to the user in said open position.

21. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard comprising:

a first panel mounted on the main body element having upper and lower surfaces for pivotal motion thereon between open and closed positions, said first panel having first and second faces;

a second panel mounted on the main body element for sideways rectilinear motion thereon and relative thereto between open and closed positions, said second panel having a third face, said third face accessible to the user in said open position and inaccessible to the user in said closed position;

wherein said function keyboard is constructed in two portions, a first portion constructed in the second face of said first panel and a second portion constructed in said third face of said second panel, each of said function keyboard portions having an array of keys consistent with a selected function, wherein said function keyboard is exposed for operative use in said open position, and

wherein said first and second panels are in overlapping alignment with one another in the closed position, and wherein said first and second panels are in non-overlapping alignment with one another in said open position and said first and second panels are located on opposite sides of said screen in said open position wherein an additional portion of the upper face of said main body element located beneath and substantially covered by said second panel in said closed position is revealed and accessible to the user in said open position.

22. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard as defined in claim 17, wherein rotational movement of said first panel about its pivotal axis causes sideways linear movement of said second panel.

23. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard as defined in claim 17, wherein sideways linear movement of said second panel causes rotational movement of said first panel about its pivotal axis.

24. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard as defined in claim 17, wherein said second panel is inhibited for sideways movement whereby said first panel rotates about its pivotal axis between said open and closed positions.

25. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard as defined in claim 17, wherein said additional portion of the upper face of said main body element carries an additional array of keys consistent with a selected function.
26. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard as defined in claim 17, wherein said screen is constructed in said at least first portion and said additional portion of said upper face and defining a full screen wherein said first and second panels are in overlapping alignment with one another and the portion of said screen located in said additional portion of said upper face whereby the visible area for display of information is restricted to less than the full screen and wherein said full screen area is available for visible display of information to the user in said open position.
27. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard as defined in claim 17, wherein said function keyboard comprises a full function QWERTY key array split in first and second portions constructed respectively in said first and second panels.
28. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard as defined in claim 17, wherein said function keyboard comprises a game controller with multiple function keys divided between said first and second panels.
29. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard as defined in claim 17, wherein said array of keys on said faces of said panels are offset to prevent interference between the keys of said faces in said closed position.

30. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard as defined in claim 17, wherein said device is a mobile communication device and further comprises a communication keypad constructed on said first face of said first panel, said keypad being exposed for operative use in said closed position.

31. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard as defined in claim 26, further including a control unit, said control unit further operating to rotate the orientation of the display on said screen consistent with the functional position of said first and second panels so that said display is aligned with said communication keypad in said closed position and aligned with said functional keyboard in said open position.

32. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard as defined in claim 26, wherein said display on said screen is rotated 90° between said open and closed positions.

33. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard as defined in claim 27, wherein said orientation is controlled by the position of said first panel.

34. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard as defined in claim 27, wherein said orientation is controlled by the position of said second panel.

35. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard as

defined in claim 26, wherein said communication device keypad is locked in an inoperative mode in said open position.

36. An electronic device for operation in multiple applications comprising:

a main body element having upper and lower faces relative to usage;

a screen constructed in at least a first portion of the upper face of said main body element to provide a visible display of information to the user;

a first panel mounted on the main body element for pivotal motion thereon between open and closed positions, said first panel having first and second faces, said first face accessible to the user in said closed position and said second face accessible to the user in said open position;

a second panel mounted on the main body element for sideways rectilinear motion thereon and relative thereto between open and closed positions, said second panel having a third face, said third face accessible to the user in said open position and inaccessible to the user in said closed position;

said first and second panels are in overlapping alignment with one another in the closed position;

a function keyboard constructed in two portions, a first portion constructed in the second face of said first panel and a second portion constructed in said third face of said second panel, each of said function keyboard portions having an array of keys consistent with a selected function, and

wherein said function keyboard is exposed for operative use in said open position wherein said function keyboard comprises a game controller with multiple function keys divided between said first and second panels.

37. An electronic device for operation in multiple applications comprising:

a main body element having upper and lower faces relative to usage;

a screen constructed in at least a first portion of the upper face of said main body element to provide a visible display of information to the user;

a first panel mounted on the main body element for pivotal motion thereon between open and closed positions, said first panel having first and second faces, said first face accessible to the user in said closed position and said second face accessible to the user in said open position;

a second panel mounted on the main body element for sideways rectilinear motion thereon and relative thereto between open and closed positions, said second panel having a third face, said third face accessible to the user in said open position and inaccessible to the user in said closed position;

said first and second panels are in overlapping alignment with one another in the closed position;

a function keyboard constructed in two portions, a first portion constructed in the second face of said first panel and a second portion constructed in said third face of said second panel, each of said function keyboard portions having an array of keys consistent with a selected function, and

said function keyboard is exposed for operative use in said open position wherein said array of keys on said faces of said panels are offset to prevent interference between the keys of said faces in said closed position..

38. An electronic device for operation in multiple applications comprising:

a main body element having upper and lower faces relative to usage;

a screen constructed in at least a first portion of the upper face of said main body element to provide a visible display of information to the user;

a first panel mounted on the main body element for pivotal motion thereon between open and closed positions, said first panel having first and second faces, said first face accessible to the user in said closed position and said second face accessible to the user in said open position;

a second panel mounted on the main body element for sideways rectilinear motion thereon and relative thereto between open and closed positions, said second panel having a third face, said third face accessible to the user in said open position and inaccessible to the user in said closed position;

said first and second panels are in overlapping alignment with one another in the closed position;

a function keyboard constructed in two portions, a first portion constructed in the second face of said first panel and a second portion constructed in said third face of said second panel, each of said function keyboard portions having an array of keys consistent with a selected function wherein said function keyboard is exposed for operative use in said open position;

wherein said device is a mobile communication device and further comprises a communication keypad constructed on said first face of said first panel, said keypad being exposed for operative use in said closed position, and

further wherein said mobile communications device comprises a control unit, said control unit further operating to rotate the orientation of the display on said screen consistent with the functional position of said first and second panels so that said display is aligned with said communication keypad in said closed position and aligned with said functional keyboard in said open position.

39. The electronic device for operation in multiple applications as defined in claim 34 wherein said display on said screen is rotated 90° between said open and closed positions.

40. The electronic device for operation in multiple applications as defined in claim 34 wherein said orientation is controlled by the position of said first panel.

41. The electronic device for operation in multiple applications as defined in claim 34 wherein said orientation is controlled by the position of said second panel.

42. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard comprising:

a first panel mounted on the main body element having upper and lower surfaces for pivotal motion thereon between open and closed positions, said first panel having first and second faces;

a second panel mounted on the main body element for sideways rectilinear motion thereon and relative thereto between open and closed positions, said second panel having a third face, said third face accessible to the user in said open position and inaccessible to the user in said closed position;

wherein said function keyboard is constructed in two portions, a first portion constructed in the second face of said first panel and a second portion constructed in said third face of said second panel, each of said function keyboard portions having an array

of keys consistent with a selected function, wherein said function keyboard is exposed for operative use in said open position, and

wherein said portions of said function keyboard comprises a game controller with multiple function keys divided between said first and second panels.

43. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard comprising:

a first panel mounted on the main body element having upper and lower surfaces for pivotal motion thereon between open and closed positions, said first panel having first and second faces;

a second panel mounted on the main body element for sideways rectilinear motion thereon and relative thereto between open and closed positions, said second panel having a third face, said third face accessible to the user in said open position and inaccessible to the user in said closed position;

wherein said function keyboard is constructed in two portions, a first portion constructed in the second face of said first panel and a second portion constructed in said third face of said second panel, each of said function keyboard portions having an array of keys consistent with a selected function, wherein said function keyboard is exposed for operative use in said open position, and

wherein said array of keys on said faces of said panels are offset to prevent interference between the keys of said faces in said closed position.

44. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard comprising:

a first panel mounted on the main body element having upper and lower surfaces for pivotal motion thereon between open and closed positions, said first panel having first and second faces;

a second panel mounted on the main body element for sideways rectilinear motion thereon and relative thereto between open and closed positions, said second panel having a third face, said third face accessible to the user in said open position and inaccessible to the user in said closed position;

wherein said function keyboard is constructed in two portions, a first portion constructed in the second face of said first panel and a second portion constructed in said third face of said second panel, each of said function keyboard portions having an array of keys consistent with a selected function, wherein said function keyboard is exposed for operative use in said open position,

wherein said device is a mobile communication device and further comprises a communication keypad constructed on said first face of said first panel, said keypad being exposed for operative use in said closed position, and

further wherein said mobile communications device comprises a control unit, said control unit further operating to rotate the orientation of the display on said screen consistent with the functional position of said first and second panels so that said display is aligned with said communication keypad in said closed position and aligned with said functional keyboard in said open position.

45. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard as defined in claim 40, wherein rotational movement of said first panel about its pivotal axis causes sideways linear movement of said second panel.

46. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard as defined in claim 40, wherein sideways linear movement of said second panel causes rotational movement of said first panel about its pivotal axis.

47. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard as defined in claim 40 wherein said orientation is controlled by the position of said first panel.

48. A function keyboard for use in an electronic device, said device having a main body element, and a screen for displaying information to the user, said keyboard as defined in claim 40 wherein said orientation is controlled by the position of said second panel.